AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A method for determining an axle geometry by recording and evaluating a topographical image of a face of a wheel fitted to an axle, comprising:

projecting light spread over an area with a coding spread over the area onto the face of the wheel from a projecting direction;

recording the light reflected from the face of the wheel with an image converter as a topographical image, from a direction other than the light projecting direction;

determining three-dimensional surface coordinates for the topographical image of the face of the wheel from the recorded light; and

evaluating the topographical image in relation to a reference system.

2. (original): A method according to claim 1, wherein the coding comprises striated patterns with varying periodicity or monochrome lattice structures.

3. (original): A method according to claim 1, wherein the coding comprises a color coding.

4. (original): A method according to claim 1, wherein a video camera is used as the image converter.

5. (original): A method according to claim 1, wherein the surface coordinates are determined through triangulation.

6. (original): A method according to claim 1, wherein the topographical image includes the entire face of the wheel.

7. (original): A method according to claim 1, wherein the topographical image is embodied in the form of a ring and includes a face of a tire cover.

8. (original): A method according to claim 1, wherein the topographical image includes at least one partial area of a face of a tire cover to be detected.

9. (original): A method according to claim 1, wherein several images of a rotating wheel are recorded.

10. (original): A method according to claim 9, wherein the wheel carries out at least one full rotation to determine a reference plane.

11. (original): A method according to claim 1, wherein a normal vector of the wheel is used for determining the axle geometry.

12. (original): A method according to claim 1, wherein at least one of the camber of the wheel and the track of the wheel is determined via a normal vector of the wheel.

13. (original): A method according to claim 1, wherein in addition to determining the axle geometry, further properties of at least one of the wheel, a rim, and a tire cover are determined.

14. (original): A method according to claim 1, wherein in addition to determining the axle geometry, further properties of vehicle body areas adjoining the wheel are determined.

15. (original): A method according to claim 14, wherein the further properties of vehicle body areas comprise a position of the wheel arch edge.

16. (original): A method according to claim 1, wherein in addition to the topographical image of the face of the wheel, color variants of the face of the wheel are detected.

17. (original): A method according to claim 1, wherein the reference system is a coordinate system of a vehicle.

18. (original): A method according to claim 1, wherein the image converter is a charge-coupled device or a complementary metal-oxide semiconductor color camera.

19. (original): A sensor for determining an axle geometry by recording and evaluating a topographical image of a face of a wheel fitted to an axle, comprising:

a light projection unit which projects light spread over an area with a coding spread over the area onto the face of the wheel from a projecting direction;

an image converter which records the light reflected from the face of the wheel as a topographical image, from a direction other than the projecting direction; and

an evaluation unit which determines three-dimensional surface coordinates for the topographical image of the face of the wheel and which determines an axle geometry.

20. (original): A sensor according to claim 19, wherein the light projection unit projects light with a coding comprising striated patterns with varying periodicity, or monochrome lattice structures.

21. (original): A sensor according to claim 19, wherein the light projection unit projects light with a coding comprising color coding.

22. (original): A sensor according to claim 19, wherein the image converter comprises a video camera.

23. (original): A sensor according to claim 19, wherein the evaluation unit determines the surface coordinates through triangulation.

24. (original): A sensor according to claim 19, wherein the evaluation unit determines at least one of the camber of the wheel and the track of the wheel via a normal vector of the wheel.

25. (original): A sensor according to claim 19, wherein the evaluation unit, in addition to determining the axle geometry, determines further properties of at least one of the wheel, a rim, and a tire cover.

26. (original): A sensor according to claim 19, wherein the evaluation unit, in addition to determining the axle geometry, determines further properties of vehicle body areas adjoining the wheel.

27. (original): A sensor according to claim 26, wherein the further properties of vehicle body areas comprise a position of the wheel arch edge.

28. (original): A sensor according to claim 19, wherein the evaluation unit also detects color variants of the face of the wheel.

29. (original): A sensor according to claim 19, wherein the evaluation unit evaluates the three-dimensional surface coordinates for the topographical image of the face of the wheel in relation to a reference system.

30. (original): A sensor according to claim 29, wherein the reference system is a coordinate system of a vehicle.

31. (original): A sensor according to claim 19, wherein the sensor determines an axle geometry by recording and evaluating a topographical image of a face of a rotating wheel fitted to an axle.

32. (original): A sensor according to claim 19, wherein the image converter is a charge-coupled device or a complementary metal-oxide semiconductor color camera.

33. (new): A method according to claim 1, wherein the area is at least substantially coextensive with the face of the wheel.

34. (new): A sensor according to claim 19, wherein the area is at least substantially coextensive with the face of the wheel.

35. (new): A method according to claim 1, wherein the projected light is spread over at least a million measurement points at a given instant in time.

36. (new): A sensor according to claim 19, wherein the light projection unit projects light over at least a million measurement points at a given instant in time.